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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/629,095

07/29/2003

Wolfgang Ramin

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06/30/2005

TEXAS INSTRUMENTS INCORPORATED

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EXAMINER

GEBREMARIAM, SAMUEL A

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/629,095

Applicant(s)

RAMIN, WOLFGANG

Examiner

Samuel A. Gebremariam

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamzehdoost et al., US patent No. 5,371,321 in view of Loeffler et al. US patent No. 5,838,074.

Regarding claims 1 and 9, Hamzehdoost teaches (fig. 2) an encapsulated chip assembly comprising (refer to fig. 2): a flexible baseplate (52, layer 52 can be molded plastic, glass epoxy etc that are flexible material, col. 4, lines 42-50), a chip (56) attached to the baseplate in such a way that its contact surfaces (the top surface of 56) face away from the baseplate (52), a layer (76) of a conductive material applied to the baseplate (52) and arranged around the chip (56) and having a support surface facing away from the baseplate (52) (the top layer of 76 supports the structures above it, therefore layer 76 has a support surface facing away from the base plate), which is at least as high as the surface of chip (56), a flexible cover plate (68, the cover plate 68 is formed of metal that is inherently flexible, col. 4, lines 63-67) arranged on the layer of conductive material (76), whose one side, opposing the chip (56), being provided with one or more conductive surfaces (70,72), which are arranged in such a way that they form an electrical connection between the chip (56, col. 5, lines 7-25) and the layer of

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conductive material (76), the support surface of the layer (76) serving as a support for the cover plate (68).

Hamzehdoost does not explicitly teach a transponder chip or the chip comprises a transponder.

Loeffler teaches that a transponder can be integrated as an IC device (transponder IC, col. 3, lines 16-23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the transponder device taught by Loeffler in the structure of Hamzehdoost in order to package a transponder device that is integrated with an integrated circuit.

The limitation that the conductive material applied to the baseplate and arranged around the transponder chip to form an aerial occupying a relatively large surface area as compared with the transponder chip so as to provide pressure-relief for the transponder chip is not given patentable weight because a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). Furthermore the combined structure of Hamzehdoost and Loeffler teaches an empty space (54, Hamzehdoost) that is surrounded by the conductive layer

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(76, Hamzehdoost) is capable providing a relatively large surface area as compared with the transponder chip so as to provide pressure-relief for the transponder chip. Furthermore the combined structure Hamzehdoost and Loeffler teaches a transponder that is integrated as an IC device. Since a transponder in general is equipped with an antenna structure, the combined structure of Hamzehdoost and Loeffler would inherently have an aerial that is made of a conductive material.

Regarding claims 7-8, Hamzehdoost teaches substantially the entire claimed structure of claim 1 above except explicitly stating that the height of the chip is so low that it is rendered flexible or has a thickness of less than 50 micrometer. Since most integrated circuits use silicon Hamzehdoost teaches a chip that consists mainly of silicon.

Furthermore parameters such as height in the art of semiconductor manufacturing process are subject to routine experimentation and optimization to achieve the desired device characteristics during fabrication.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the height of the IC of Hamzehdoost as claimed in order to form a device that is easily packaged

3. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamzehdoost, Loeffler and in view of Nakaoka et al. US patent No. 6,583,512.

Regarding claim 2, Hamzehdoost teaches substantially the entire claimed structure of claim 1 above except explicitly stating that the chip is surrounded by a filler material that fills the open space between the baseplate and the cover plate.

Nakaoka teaches the use of a filler material (30, col. 11, lines 64-67) in order to fill the space between the semiconductor devices (fig. 8c).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the filler material taught by Nakaoka in the structure of Hamzehdoost in order to further seal the device.

Regarding claim 3, Hamzehdoost teaches substantially the entire claimed structure of claims 1 and 2 above including further comprising an electrically conductive glue (74), which is to establish both the electrical and the mechanical connections between the contact surfaces of the chip (56) and of the cover plate (68).

Regarding claim 4, Hamzehdoost teaches substantially the entire claimed structure of claims 1 and 2 above including further comprising an anisotropically conductive film (30, col. 11, lines 64-67, Nakaoka) (ACF), which serves to establish both an electrical and a mechanical connection between the contact surfaces of the chip and the conductive surface.

Regarding claim 5, Hamzehdoost teaches substantially the entire claimed structure of claims 1 and 2 above including the filler material consists of the anisotropically conductive film (col. 11, lines 64-67, Nakaoka).

#### ***Response to Arguments***

4. Applicant's arguments filed 4/22/05 have been fully considered but they are not persuasive. Applicant argues that the prior art reference by Hamzehdoost does not a transponder chip assembly including a flexible baseplate and a flexible cover, and including a layer of a conductive material applied to the baseplate and arranged to

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around the transponder chip to form an aerial occupying a relatively large surface area as compared with the transponder chip so as to provide pressure-relief for the transponder chip. As shown above the limitation that the conductive material applied to the baseplate and arranged around the transponder chip to form an aerial occupying a relatively large surface area as compared with the transponder chip so as to provide pressure-relief for the transponder chip is not given patentable weight because a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). Furthermore the combined structure of Hamzehdoost and Loeffler teaches an empty space (54, Hamzehdoost) that is surrounded by the conductive layer (76, Hamzehdoost) is capable providing a relatively large surface area as compared with the transponder chip so as to provide pressure-relief for the transponder chip. Furthermore the combined structure Hamzehdoost and Loeffler teaches a transponder that is integrated as an IC device. Since a transponder in general is equipped with an antenna structure, the combined structure of Hamzehdoost and Loeffler would inherently have an aerial that is made of a conductive material.

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**Conclusion**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel A. Gebremariam whose telephone number is (571) 272-1653. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (571) 272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAG  
June 25, 2005

Steven L. Loh  
Primary Examiner

